TECHNICAL DATA SHEET

ZSM-22

TON structure type · H^+ form · SiO_2/Al_2O_3 molar ratio 65–80 · BET >180 m^2/g · needle-form single crystals · hydrothermal synthesis · 20 g / 50 g



ACS Material ZSM-22 — Representative Packaging

ACS Material ZSM-22 (20 g). Image shown for reference; label and packaging may vary.

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SECTION I

Product Overview

ZSM-22 is a high-silica zeolite with the TON structure type. Its framework consists of 5-, 6- and 10-rings and contains ferrierite sheets of the type found in ZSM-5, ZSM-11 and ZSM-35, together with sheets of 6-rings. The channel system is linear, one-dimensional and non-interconnecting, with 10-membered ring openings of 5.5 × 4.5 Å — smaller than the 10-ring channels of ZSM-5, ZSM-11 and ZSM-35 [1].

ACS Material ZSM-22 is prepared by the hydrothermal synthesis method and supplied in the H^+ form as a powder of needle-form single crystals. It has a SiO_2/Al_2O_3 molar ratio of 65–80, a BET surface area >180 m^2/g, a comparative crystallinity >95% and Na_2O <500 ppm. The product is calcined and ready to use directly, and it can be re-calcined at 550 °C if needed. Typical SEM, XRD and BET data are included in this data sheet.

SECTION II

Core Advantages

- **1D 10-ring channels** — TON structure type.
- **High-silica framework** — SiO_2/Al_2O_3 molar ratio 65–80.
- **Low sodium** — Na_2O <500 ppm.
- **H^+ form** — cation H^+.
- **High crystallinity** — comparative crystallinity >95%.
- **Ready to use** — calcined; re-calcinable at 550 °C.

SECTION III

Specifications

Technical data

Specifications	
Product name	ZSM-22
Brand	ACS Material
Structure type	TON
Channel system (literature)	One-dimensional, non-interconnecting 10-ring channels, 5.5 × 4.5 Å (literature value) [1]
Preparation method	Hydrothermal synthesis method
Cation	H^+
SiO_2/Al_2O_3 molar ratio	65–80
BET surface area	>180 m^2/g
Form	Powder, single crystals, needle form
Comparative crystallinity	>95%
Na_2O	<500 ppm
Supplied	Calcined, ready to use directly; can be re-calcined at 550 °C if needed

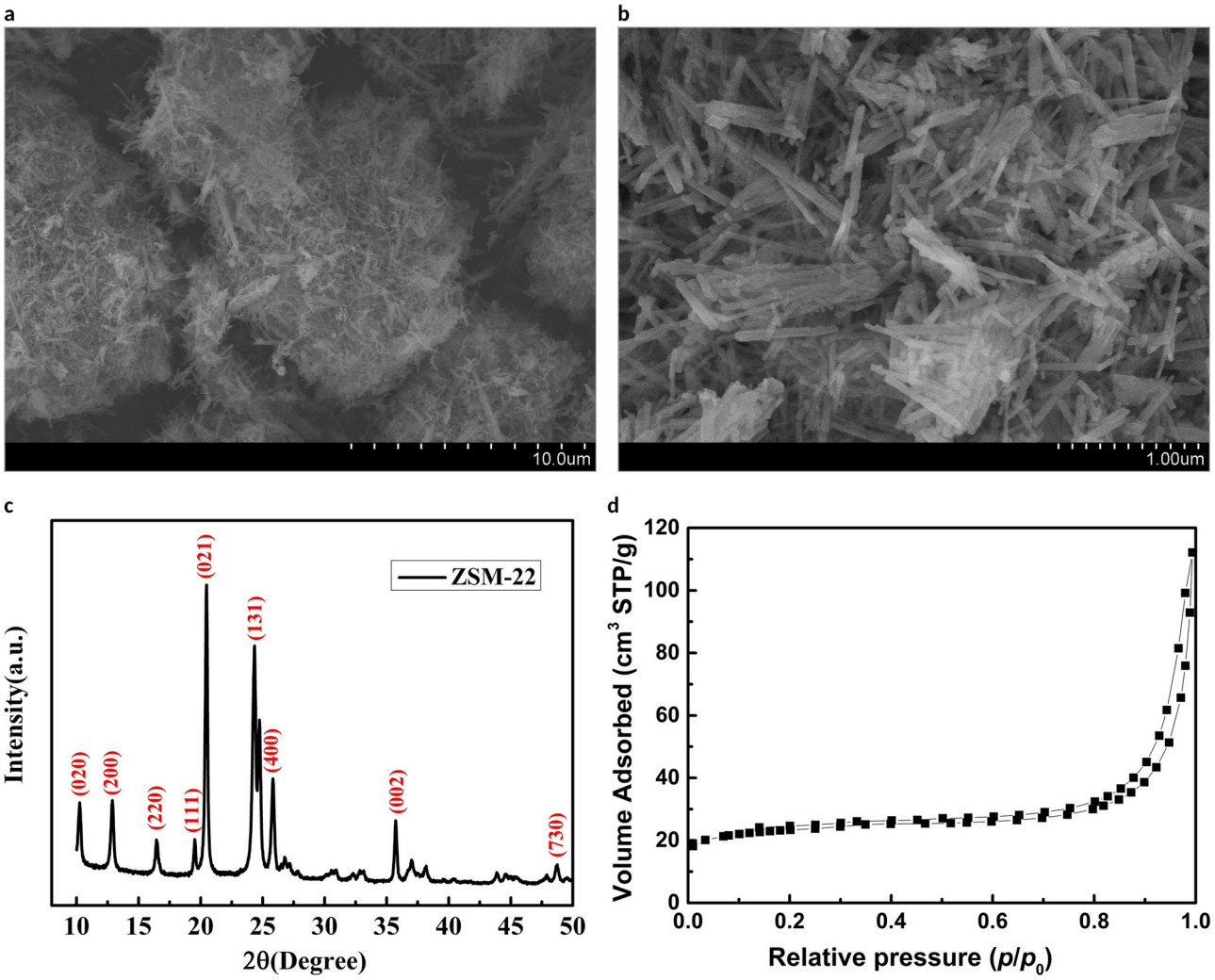
[1] Kokotailo, G. T., et al. “The framework topology of ZSM-22: A high silica zeolite.” Zeolites 5.6 (1985): 349–351.

Ordering information

Package	Product No.
20 g	MSZ22H12
50 g	MSZ22H15

For larger quantities please contact us at contact@acsmaterial.com.

Typical data



a SEM image of ACS Material ZSM-22, ×5.00k (scale bar 10.0 µm). **b** SEM image, ×30.0k (scale bar 1.00 µm). **c** XRD pattern with indexed reflections (2θ 10–50°). **d** Adsorption–desorption isotherm.

SECTION IV

Applications

ZSM-22 is used as a catalyst and for paraffin isomerization.

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